CLAIMS

1. A liquid crystal display which comprises a pair of substrates and a liquid crystal layer sandwiched between the pair of substrates;

wherein where the alignment state of a liquid crystal when no voltage is applied to the liquid crystal layer is defined as an alignment state 1 and the alignment state of the liquid crystal used for performing displaying is defined as an alignment state 2, the alignment state 1 differs from the alignment state 2; and

wherein the interface between the liquid crystal layer and at least one of the pair of substrates is flattened.

2. A liquid crystal display according to claim 1, wherein either of the pair of substrates is an active matrix substrate.

3. A liquid crystal display according to claim 1, wherein the interface is flattened by a flattening film composed of a resin layer.

4. A liquid crystal display according to claim 3, wherein electrodes are formed on at least part of the flattening film.

5. A liquid crystal display according to claim 1, wherein the alignment state 1 is a spray alignment state whereas the alignment state 2 is a bend alignment state.

6. A liquid crystal display according to claim 1, wherein the level differences of irregularities on the substrates are 1 μ m or less.

7. A liquid crystal display according to claim 1, wherein the level differences of irregularities on the substrates are 0.5 μ m or less.

8. A liquid crystal display according to claim 2, wherein the active matrix substrate has a plurality of pixel electrodes and the spacing between the pixel electrodes is within the range of from 1 μ m to 10 μ m.

9. A liquid crystal display according to claim 2, wherein the active matrix substrate has a plurality of pixel electrodes and the spacing between the pixel electrodes is within the range of from 1 μ m to 5 μ m.

10. A liquid crystal display according to claim 8, wherein at least part of the pixel electrodes is higher than the average height of the pixel electrodes.

11. A liquid crystal display constructed according to Claim 8, wherein a voltage is applied across the pixel electrodes and an opposed electrode formed on the other one of the pair of substrates, thereby transiting the alignment state of the liquid crystal layer to a bend alignment to perform displaying in the condition after the transition.

12. A liquid crystal display which is an active matrix type liquid crystal display wherein a liquid crystal layer is sandwiched between an array substrate having pixel electrodes and an opposed substrate having an opposed electrode and the liquid crystal layer is oriented in a bend alignment thereby performing displaying, wherein conductive formation members, which are electrically conducted to the opposed electrode but electrically insulated from the array substrate, are formed on the opposed substrate.

13. A liquid crystal display according to Claim 12, wherein the conductive formation members are placed in the space between every adjacent pixel electrodes so as to be electrically insulated from the array substrate.

14. A liquid crystal display according to Claim 12, wherein the pixel electrodes are positioned on a flattening film formed on the array substrate.

15. A liquid crystal display according to Claim 14, wherein the level differences of irregularities on the flattening film are 1 μ m or less.

16. A liquid crystal display according to Claim 14, wherein the level differences of irregularities on the flattening film are 0.5 μ m or less.

17. A liquid crystal display according to Claim 12, wherein the array substrate has a plurality of pixel electrodes and the spacing between the pixel electrodes is within the range of from 1 μ m to 10 μ m.

18. A liquid crystal display according to Claim 12, wherein the array substrate has a plurality of pixel electrodes and the spacing between the pixel electrodes is within the range of from 1 μ m to 5 μ m.

19. A liquid crystal display according to Claim 12, wherein the conductive formation members are covered with an insulating material.

20. A liquid crystal display according to Claim 12, wherein the height of the conductive formation members is smaller than the gap between the array substrate and the opposed substrate.

21. A liquid crystal display according to Claim 12, wherein the conductive formation members are spacers for maintaining the gap between the array substrate and the opposed substrate to be constant.

22. A liquid crystal display according to Claim 12, wherein a voltage is applied across the pixel electrodes and the opposed electrode to transit the alignment state of the liquid crystal layer to the bend alignment to perform displaying in the condition after the transition.

23. A liquid crystal display which comprises a pair of substrates having electrodes and a liquid crystal layer sandwiched between the pair

of substrates;

wherein the liquid crystal layer is oriented in a bend alignment to perform displaying; and

wherein at least one conductive particle having a diameter smaller than the gap between the pair of substrates is placed on the electrode surface of at least either one of the substrates.

24. A liquid crystal display according to Claim 23, wherein the conductive particle is placed on the electrode surface of at least either one of the substrates so as to be positioned under an alignment layer.

25. A liquid crystal display according to Claim 23, wherein the conductive particle is placed on the electrode surface of at least either one of the substrates so as to be mixed with and dispersed in an alignment layer.

26. A liquid crystal display according to Claim 23, wherein one of the pair of substrates has a pixel electrode and a switching element for every pixel.

27. A liquid crystal display according to Claim 26, wherein the pixel electrodes are formed on a flattening film for covering the switching elements or wiring flat.

28. A liquid crystal display according to Claim 23, wherein a voltage is applied across the electrodes to transit the alignment state of the liquid crystal layer to the bend alignment to perform displaying in the condition after the transition.

29. A liquid crystal display according to Claim 23, wherein the conductive particle is a resin particle or an inorganic material particle the surface of which is coated with a conductive thin film.

30. A liquid crystal display according to Claim 23, wherein the diameter of the conductive particle is within the range of from one hundredth the gap between the substrates to one half the gap between the substrates.

31. A method of manufacturing a liquid crystal display which comprises a pair of substrates having electrodes and a liquid crystal layer sandwiched between the pair of substrates and wherein displaying is performed by orienting the liquid crystal layer in a bend alignment,

the method comprising:

a dispersion step of dispersedly securing a conductive particle having a diameter smaller than the gap between the substrates to the electrode surface of at least either one of the substrates; and

an alignment layer formation step of forming an alignment layer by applying an alignment film material to the electrodes and baking it.

32. A method of manufacturing a liquid crystal display which has a pair of substrates having electrodes and a liquid crystal layer sandwiched between the pair of substrates and wherein displaying is performed by orienting the liquid crystal layer in a bend alignment,

the method comprising an alignment layer formation step of disposing a conductive particle in a mixed and dispersed manner by applying a material to the electrode surface of at least one of the substrates and baking it, the material containing the conductive particle which has a diameter smaller than the gap between the substrates and is mixed with and dispersed in the alignment film material.

33. A liquid crystal display which comprises a pair of substrates having electrodes and a liquid crystal layer sandwiched between the pair

of substrates,

wherein the liquid crystal layer is oriented in a spray alignment; and

wherein the surfaces of alignment layers formed on the surfaces of the electrodes each have an irregular configuration.

34. A liquid crystal display according to Claim 33, wherein the irregular configuration is a configuration formed by changing the thickness of the alignment layers.

35. A liquid crystal display according to Claim 33, wherein the alignment layers are formed by letterpress printing.

36. A liquid crystal display according to Claim 33, wherein either one of the pair of substrates is an array substrate having pixel electrodes formed thereon, a flattening film is formed on the array substrate, and the flattening film has an irregular configuration.

37. A liquid crystal display according to Claim 33, wherein either of the substrates is a reflective substrate and the reflecting surface of said substrate has an irregular configuration.

38. A liquid crystal display according to Claim 33, wherein a voltage is applied across the electrodes to transit the alignment state of the liquid crystal layer to a bend alignment to perform displaying in the condition after the transition.

39. A method of manufacturing a liquid crystal display which comprise a pair of substrates including electrodes and a liquid crystal layer sandwiched between the pair of substrates, wherein the liquid crystal layer is oriented in a spray alignment, and wherein the surfaces of alignment layers formed on the surfaces of the electrodes each have an

irregular configuration,

the method comprising the step of forming the irregular configurations of the electrode surfaces by use of a UV asher, ozone asher, UV/ozone asher or the like.

40. A method of manufacturing a liquid crystal display which has a pair of substrates having electrodes and a liquid crystal layer sandwiched between the pair of substrates;

wherein the liquid crystal layer is oriented in a spray alignment; and

wherein the surfaces of alignment layers formed on the surfaces of the electrodes each have an irregular configuration,

the method comprising:

a dispersion step of dispersing, beforehand, powder or minute particles into printing varnish used for forming the alignment layers on the surfaces of the electrodes; and

an alignment layer formation step of forming the alignment layers by applying the varnish onto the surfaces of the electrodes and baking the varnish.

41. A liquid crystal display which comprises a pair of substrates having electrodes and a spray-aligned liquid crystal layer sandwiched between the pair of substrates;

wherein a plurality of spacers are placed between the pair of substrates;

wherein the spacers are securely attached to at least either one of the substrates with an adhesive which increases the pretilt angle of liquid crystal molecules within the liquid crystal layer; and

wherein the adhesive is spread over the substrate.

42. A liquid crystal display according to Claim 41, wherein the adhesive is spread over a distance approximately no less than the diameter of each spacer, being centered on the spacer.

43. A liquid crystal display according to Claim 41, wherein the adhesive is spread, in one direction from each spacer, over a distance approximately no less than the radius of the spacer, being centered on the spacer.

44. A liquid crystal display according to Claim 41, wherein the adhesive contains, as a component, a fluorine type alignment material, a fluorine type material or a long-chain alkyl material.

45. A liquid crystal display according to Claim 41, wherein a voltage is applied across the electrodes to cause a transition of the liquid crystal layer from a spray alignment to a bend alignment, thereby performing displaying.

46. A method of manufacturing a liquid crystal display which comprises a pair of substrates having electrodes and a spray-aligned liquid crystal layer sandwiched between the pair of substrates,

the method comprising:

a spacer scattering step of scattering spacers onto at least either one of the pair of substrates, the spacers having an adhesive adhered thereto which increases the pretilt angle of liquid crystal molecules within the liquid crystal layer;

a substrate stationary placement step of placing the substrate so as to be stationary, over which the adhesive is allowed to spread; and

a liquid crystal cell formation step of forming a liquid crystal cell

by sticking the pair of substrates together.

47. A method of manufacturing a liquid crystal display according to Claim 46, wherein, in the substrate stationary placement step, the substrate is horizontally placed so as to be stationary and the adhesive is spread over a distance approximately no less than the diameter of each spacer, being centered on the spacer.

48. A liquid crystal display manufacturing method according to Claim 46, wherein, in the substrate stationary placement step, the substrate is vertically placed so as to be stationary and the adhesive is spread, in one direction from each spacer, over a distance approximately no less than the radius of the spacer, being centered on the spacer.

49. A method of manufacturing a liquid crystal display which comprises a pair of substrates having electrodes and a spray-aligned liquid crystal layer sandwiched between the pair of substrates,

the method comprising:

a spacer scattering step of scattering spacers onto at least either one of the pair of substrates, the spacers having an adhesive adhered thereto which increases the pretilt angle of liquid crystal molecules within the liquid crystal layer; and

a substrate stationary placement step of sticking the pair of substrates together on which the adhesive is allowed to spread.